

### Section 85 Pavement Markers

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#### 4-8501 General

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This work consists of furnishing and placing retroreflective, nonreflective, and retroreflective-recessed pavement markers. In addition to the information in this section of the *Construction Manual* (manual), see the following documents for more information:

- For details about placing pavement markers, see the “Pavement Markers and Traffic Lines, Typical Details” sheets of the *Standard Plans*.
- For the specifications for epoxy adhesive, see Section 95, “Epoxy,” of the *Standard Specifications*.
- For the specifications for hot-melt bituminous adhesive, see Section 85, “Pavement Markers,” of the *Standard Specifications*.

When specified, pavement markers may be placed using a moving lane closure to control traffic. Only bituminous adhesive is permitted when moving lane closures are used. The special provisions and *Standard Plans* provide details for moving lane closures.

In areas subject to snow, the specifications may require the contractor to place pavement markers in recesses in the pavement.

#### 4-8502 Before Work Begins

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Before work begins, take the following steps:

- Review plans, the *Standard Specifications*, and the special provisions.
- Review the contractor’s proposed method of controlling traffic and ensure that all the specified components of any required traffic control system are in place.
- Verify the receipt and proper distribution of Form CEM-3101, “Notice of Materials to Be Used,” which covers pavement markers and adhesive material. Listed pavement markers should be from the lists of approved products contained in the materials section of the special provisions.
- Examine materials as they arrive on the project to ensure they are the same as the materials shown on Form CEM-3101 and that they arrive with a correctly prepared Certificate of Compliance.
- Take samples, when necessary, in accordance with the sampling frequency tables in Chapter 6, “Sampling and Testing,” of this manual.
- When the contractor is to use bituminous material, check the maximum safe heating temperature recommended by the manufacturer.
- Inspect the contractor’s equipment, and determine the method to be used for checking the bituminous adhesive temperature.

- Check the contractor's layout work to ensure correct alignment and spacing.
- Determine the proposed method of removing and disposing of residue from pavement recesses. Do not permit pavement removal to begin until the contractor has submitted the required documents.

**4-8503 During the Course of Work**

During the work, do the following:

- Before the placing of pavement markers, ensure that pavement has cured for the specified time.
- Before applying adhesives, ensure the pavement is clean and the surface dry.
- Check pavement and air temperatures.
- Permit moving lane closures only when markers are placed using bituminous adhesive.
- When the contractor uses epoxy adhesive, which comes in two separate components, check the mixing for specification compliance. Ensure the proportions of the two components match the specifications. During the placing of pavement markers, observe the epoxy adhesive to ensure it is uniformly gray without black or white streaks. Even minor variations in the correct proportions of the two components will weaken the adhesive quality of epoxy.
- Verify that the application temperature of bituminous adhesive is within the specified range.
- Determine that the contractor meets the time requirements between mixing adhesive and placing pavement markers.
- Determine that the patterns and types of pavement markers are placed correctly in accordance with the typical details on the plans.
- After placement, determine that the pavement markers are not on longitudinal or transverse joints and that they are fully supported with adhesive.
- Also after placement, look for any missing or damaged pavement markers and document any rejections. Conduct and document an immediate night inspection to ensure the reflectivity of the installed material. If you encounter any problems, notify the contractor immediately for corrections.

**4-8504 Measurement and Payment**

Measure the pavement markers according to the units specified in the *Standard Specifications* and the special provisions. Record such measurement in the daily reports and the calculation sheets to support partial and final payments.

When large quantities of pavement markers will be placed, you may count the markers by keeping track of the number of boxes of markers used. Check this number against the theoretical number of markers to be placed.